REMARKS

The applicants note with appreciation the acknowledgement of the claim for priority under section 119 and the notice that all of the certified copies of the priority documents have been received.

The applicants acknowledge and appreciate receiving a copy of form PTO-1449, on which the examiner has initialed all listed items.

Claims 1 – 20 are pending. Claims 10 – 20 have been added. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

Claims 1, 2 and 4 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 5,108,159, Tsang et al. ("Tsang") in view of JP 2002104169 ("JP'169"). Claim 3 was rejected under 35 USC 103(a) as being unpatentable over Tsang in view of JP'169, further in view of U.S. Patent No. 6,142,581, Yamaguchi et al. ("Yamaguchi"). Claims 5 – 9 were rejected under 35 USC 103(a) as being unpatentable over Tsang in view of JP'169, further in view of U.s. Patent No. 6,109,703, Takahashi ("Takahashi"). The rejections are respectfully traversed for the following reasons, which are provided by way of example.

As described in the application, one or more aspects of the invention as claimed are directed to suppressing and preventing noise including brake noise, by controlling a dither current that is superimposed on a target supplied to a brake driving actuator. (Specification, page 2, lines 18 – 25.) The claimed invention in operation provides that dither current, which is superimposed on target current supplied to a brake driving actuator, is controlled for reducing the

brake noise. The dither current is generally used for controlling an electric valve. However, it is not used for reducing brake noise.

Independent claim 1 recites, in combination, for example, "a braking force regulating portion that is controlled by dither current and generates the braking force; a brake noise detecting portion for detecting at least one of brake noise generation and a possibility thereof in each vehicle wheel; and a control portion for controlling the dither current, wherein when either the brake noise generation or the possibility thereof is detected by the brake noise detecting portion, the control portion changes at least one of an amplitude and a cycle of the dither current to suppress brake noise."

Tsang discloses a noise attenuated anti-lock brake system. The office action concedes that Tsang lacks a dither current for controlling the valves upon the detection of excessive noise levels.

In order to cure the deficiencies of Tsang, the office action cites JP'169, alleging that JP'169 utilizing a current, although for the purpose of current reduction. JP'169 is directed to a dither current that is superimposed to an instruction current for supplying a brake driving actuator corresponding to an amount of depression of a brake pedal. Therefore, the dither current is zero when the brake pedal remains depressed. Accordingly, since the dither current is zero during brake control, the noise reduction feature cannot be obtained. Moreover, JP'169 fails to teach or suggest that the dither current can be used for reducing brake noise.

Tsang does not teach or suggest a dither current for controlling the valves upon detection of excessive noise levels. JP'169 utilizes a dither current of zero, and neither teaches or suggests a noise reduction feature thereby. Indeed, any discussion of use of the dither current during brake control of JP'169 would be inapposite since the dither current becomes zero when the

brake pedal remains depressed. Consequently, neither Tsang nor JP'169 teach or suggest, let alone disclose, anything concerning utilizing dither current for reducing brake noise.

Similarly, as explained above, Tsang and JP'169 operate in a fundamentally different way than the claimed invention.

Moreover, there is no suggestion or motivation to combine the references. The office action provides no motivation to combine the references, other than a conclusory statement on page 3 that it would have been obvious to used a "dither current" in Tsang "to control the actuation of the valves and in order to minimize current required or the effect of coulomb friction, hysteresis and deadband ... with respect to actuation of the valves." Tsang itself does not provide a motivation to combine its brake system for attenuating noise produce by vibrations with a dither control, nor does JP'169 provide a motivation to offer noise reduction utilizing a zero dither current.

Assuming arguendo, without admitting, that there is a motivation to combine the two references, the proposed modification would appear to change the principle of operation of either Tsang or JP'169, or both. The dither current that corresponds to the amount of brake pedal depression does not appear to be appropriate to use with the device of Tsang. The proposed combination would appear to require a substantial re-design of JP'169 and/or Tsang, in order to accommodate the combination as proposed by the examiner.

The other cited references are similarly deficient and fail to remedy the deficiencies of Tsang. For example, Yamaguchi and Takahashi neither teach nor suggest that the dither current is used for reducing brake noise.

For at least these reasons, the combination of features recited in independent claim 1, when interpreted as a whole, is submitted to patentably distinguish over the prior art. In addition, the references clearly fail to show other claimed features as well.

With respect to the rejected dependent claims, applicant respectfully submits that these claims are allowable not only by virtue of their dependency from independent claim 1, but also because of additional features they recite in combination.

New claims 10 – 20 have been added to further define the invention, and are believed to be patentable for reasons including these set out above.

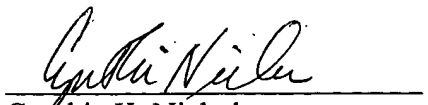
Applicants respectfully submit that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. Applicants do not concede that the cited prior art shown any of the elements recited in the claims. However, applicants have provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicants strongly emphasize that one reviewing the prosecution history should not interpret any of the examples applicant has described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, for the sake of simplicity, applicant has provided examples of why the claims described above are distinguishable over the cited prior art.

In view of the forgoing, the applicants respectfully submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,



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